BioFuels Proposer's Day

Adams Mark Hotel

Denver, CO

25 July 2006

Questions and Answers

The following are the questions and answers asked and answered at the BioFuels Proposer's Day meeting. They are listed in the order asked or received.

1. What is the starting point for the 60% conversion efficiency?
   A: The starting point is with the crop oil. The ultimate goal of this effort is to cap the cost of JP-8 fuel.

2. Is the efficiency based on energy content?
   A: Yes

3. If a genetically engineered crop solution is already in-hand can it be used?
   A: If the solution is already in-hand it can be used. Genetic engineering/manipulation of crops is not a part of this program.

4. As I understand it, you are only interested in the Energy content from the start of the process (Oil) to the finished product (JP-8). You are not interested in the energy content of the by-products.
   A: That is correct. We are not interested in the energy content of the by-products.

5. The requirement for a Commercialization Plan implies that a proposer will have to make contacts with a commercial entity. Does the proposal allow funding to do this outreach?
   A: Yes, if outreach is required to have the plan ready prior to month 18 of the program.

6. Under the Commercialization Plan, is the preference to use large existing commercial processing or smaller more remote processing?
   A: It is unclear which path is preferable. This will largely be a cost issue. From a national security perspective using a diversity of feedstocks in geographically separated locations is certainly a plus.

7. You stated that this program is not about producing a fuel that is more environmentally friendly. However, can Carbon Credits be included in the evaluation?
   A: Include Carbon Credits, but also keep track if they were not included.

8. Does the oil used in your example in the BAA use pure triglycerides or did you take free fatty acids and phospholipids into consideration?
   A: The oil used in the BAA example was unrefined soy oil which included triglycerides, free fatty acids, phospholipids and other constituents.

9. Should the affordability model include any required equipment changes?
A: The cost of producing or procuring the appropriate aromatics should be included. No changes to equipment, i.e. jet engines, will be allowed.

10. Who will own the technology at the end of the program?
A: The developer will own the technology and may make it available for commercial use.

11. Under which Evaluation Criteria is Affordability included?
A: Affordability is included under Evaluation Criteria 1 (Technical Approach) and Evaluation Criteria 2 (Potential Contribution and Relevance to the BioFuels Program and the DARPA Mission).

12. Is the 60% efficiency figure calculated by weight or by volume?
A: The 60% efficiency figure is calculated by weight.

13. What do you intend by a 60% minimum efficiency and a 90% target efficiency?
A: The 60% (by weight) minimum efficiency and the 90% efficiency plan are intended as affordability drivers. The ultimate goal of this program is as a hedge against the unrestrained cost growth for petroleum based JP-8.

14. Will you establish a teaming website for this effort?
A: Yes, a teaming website has been established. The URL is: http://teaming.sysplan.com/BAA-06-43/.

15. Are feedstocks limited only to oils/oil crops?
A: No, tell us what else can be used and we will consider other sources.

16. The energy density of the fuel will be an issue if oxygenated/partially oxygenated fuels are made from biomass. Are you asking for not only bio-based fuels but oxygenated (i.e. more environmentally friendly) fuels as well? What energy density can the agency tolerate?
A: Environmentally friendliness is not considered either positively or negatively in the evaluation of proposals. The required energy density is contained in MIL-DTL-83133E and is specified as 42.8MJ/kg or greater.

17. Does the feedstock need to be indigenous to the 48 contiguous states?
A: No, Alaska, Hawaii, Puerto Rico, and US possessions are all fine; however, no non-US produced feedstock or sea based aquaculture will be considered.

18. Can the technology developed be licensed to the Public Sector?
A: Yes, but I am not sure why you would want too. Licensing to the Private Sector is the recommended approach.

19. Does the process developed have to be flexible with respect to the feedstock, or can it apply to one specific feedstock?
A: The process can apply to only one specific feedstock; however, we recommend a more flexible process such as the commercial process currently used to process various types and grades of petroleum.

20. Is technology development encouraged or is it better to use a combination of existing technology?

A: The program is Technology Neutral. Use whatever will achieve the required results.

21. What type of characterization needs to be carried out by the contractor or will DARPA take the lead on this?

A: The contractor will be responsible for characterization of the fuel produced. This is not intended to imply that the contractor is responsible for testing the fuel in a jet engine. DARPA will validate the contractor's claims.

22. What are the interim quantities of fuel needed by DARPA for characterization?

A: DARPA does not require any interim quantities, only the 100 liters at the end of the program. However, we advise the contractor consider a minimum of three interim test cycles of approximately 2 liters each followed by the final 100 liter delivery.

23. How should fuel safety (i.e. Transportation, Storage, Security, etc.) be addressed?

A: All DOT, USPS, etc. requirements remain in effect for this program. Contractors are advised to include appropriate shipping, storage, etc. costs as a part of their proposal.